

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 1-35. (Canceled)

1 36. (New) A package for providing high density storage, comprising:
2 a hard disk carrier housing configured for insertion within a disk array chassis and for
3 holding multiple hard disk storage devices proximate to one another; and
4 a hard disk carrier access device, disposed within the hard disk carrier housing, for
5 structuring access to physical addresses of the multiple hard disk storage devices within the
6 hard disk carrier housing and providing access to each of the multiple hard disk storage
7 devices within the carrier housing over one connection.

1 37. (New) The package of claim 36, wherein the hard disk carrier access device
2 further comprises an address aggregator for aggregating the physical addresses of the hard
3 disk storage devices within the hard disk carrier housing into logical addresses and making
4 the logical addresses of the hard disk storage devices within the hard disk carrier housing
5 available over one connection.

1 38. (New) The package of claim 37, wherein the address aggregator is configured
2 to present the hard disk storage devices within the hard disk carrier housing as a single storage
3 device.

1 39. (New) The package of claim 37, wherein the address aggregator is configured
2 to allowing each of the hard disk storage devices within the hard disk carrier housing to be
3 addressed individually using logical addresses.

1 40. (New) The package of claim 36, wherein the hard disk carrier access device is
2 configured to enable partial population of the hard disk carrier housing with hard disk storage
3 devices so that hard disk storage devices are capable of functioning when the hard disk carrier
4 housing is not fully populated with hard disk storage devices.

1 41. (New) The package of claim 36, wherein the hard disk carrier housing further
2 comprises fault indicators for allowing notification of an inoperable hard disk storage device
3 within the hard disk carrier housing.

1 42. (New) The package of claim 36, wherein the hard disk carrier housing further
2 comprises internal connectors for connecting internal devices, wherein the internal connectors
3 are configured for at least one type of technology selected from the group consisting of serial
4 advanced technology attachment (SATA), serial attached SCSI (SAS), or Fibre Channel.

1 43. (New) The package of claim 36, wherein the hard disk carrier access device
2 provides failure mode data for indicating a type of problem.

1 44. (New) The package of claim 36, wherein the hard disk carrier housing further
2 comprises a spring-loaded bracket for holding each hard disk storage device in place.

1 45. (New) The package of claim 36, wherein the hard disk access device further
2 comprises a controller for virtualizing the logical addresses of the hard disks storage devices
3 within the hard disk carrier housing as at least one aggregate volume to provide a layer of
4 abstraction to the hard disk storage devices within the hard disk carrier housing.

1 46. (Currently Amended) A package for aggregating electronic devices
2 comprising:
3 means for use in a hard disk array chassis and for holding multiple hard disk storage
4 devices proximate to one another; and
5 means, coupled to the means for holding, for structuring access to physical addresses
6 of the multiple hard disk storage devices within the means for holding and providing access to
7 each of the multiple hard disk storage devices over one connection.

1 47. (Currently Amended) The package of claim 46, wherein the means for
2 structuring further comprises means for virtualizing the logical addresses of hard disk storage
3 devices within the means for holding as at least one aggregate volume to provide a layer of
4 abstraction to the hard disk storage devices within the means for holding.

1 48. (Currently Amended) The package of claim 46, wherein the means for
2 structuring further comprises means for aggregating the physical addresses of the hard disk
3 storage devices within the means for holding into logical addresses and making the logical
4 addresses available over one connection.

1 49. (New) A storage system, comprising:
2 a plurality of hard disk carrier packages for providing high density storage, each hard
3 disk carrier package comprising
4 a plurality of hard disk storage devices;
5 a hard disk carrier housing for holding the multiple hard disk storage devices
6 proximate to one another; and
7 a hard disk carrier housing access device, coupled to the hard disk carrier
8 housing, for structuring access to physical addresses of the multiple hard disk storage devices
9 within the hard disk carrier housing, the hard disk carrier housing access device further
10 providing access to each of the multiple hard disk storage devices within the hard disk carrier
11 housing over one connection and implementing a desired package level storage configuration;
12 a disk array chassis for holding the plurality of the hard disk carrier packages for
13 providing high-density storage;
14 a package aggregator, coupled to the plurality of hard disk carrier packages, for
15 providing connections to each of the plurality of hard disk carrier packages for power, control
16 and signaling; and
17 a system level controller, coupled to the plurality of hard disk carrier packages, for
18 implementing a desired system level storage configuration.

1 50. (New) The package of claim 49, wherein the hard disk carrier housing access
2 device further comprises an address aggregator for aggregating the physical addresses of the
3 hard disk storage devices within the hard disk carrier housing into logical addresses and
4 making the logical addresses of the hard disk storage devices within the hard disk carrier
5 housing available over one connection.

1 51. (New) The storage system of claim 50, wherein the address aggregator is
2 configured to present the hard disk storage devices within the hard disk carrier housing as a
3 single storage device.

1 52. (New) The storage system of claim 50, wherein the address aggregator is
2 configured to allowing each of the hard disk storage devices to be addressed individually
3 using logical addresses.

1 53. (New) The storage system of claim 49, wherein the system level controller is
2 configured to provide logical volume aggregation across the plurality of hard disk carrier
3 housing packages.

1 54. (New) The storage system of claim 53, wherein the system level controller
2 presents a desired RAID configuration across the aggregated hard disk carrier housing
3 packages.

1 55. (New) The storage system of claim 49, wherein the system level controller
2 presents a desired system level RAID configuration across the plurality of hard disk carrier
3 housing packages.

1 56. (New) The storage system of claim 49, wherein the hard disk carrier housing
2 access device further comprises a hard disk carrier housing package controller for virtualizing
3 the logical addresses of the hard disk storage devices within the hard disk carrier housing as at
4 least one aggregate volume to provide a layer of abstraction to the hard disk storage devices
5 within the hard disk carrier housing.

1 57. (New) The storage system of claim 56, wherein the system level controller
2 presents a system level RAID configuration across the plurality of hard disk carrier housing
3 packages and each hard disk carrier housing package controller presents a hard disk carrier
4 housing package level RAID configuration across the plurality of hard disk storage devices
5 within each of the hard disk carrier housing.

1 58. (New) A method for providing high density storage, comprising:
2 holding multiple hard disk storage devices proximate to one another in a hard disk
3 carrier housing configured for insertion as a hard disk carrier package within a disk array
4 chassis;
5 structuring access to physical addresses of the multiple hard disk storage devices
6 within the hard disk carrier housing; and
7 providing access to each of the multiple hard disk storage devices within the carrier
8 housing over one connection.

1 59. (New) The method of claim 58, wherein the providing structured access to
2 physical addresses of the multiple storage devices within the hard disk carrier housing over
3 one connection further comprises aggregating the physical addresses of the hard disk storage
4 devices within the hard disk carrier housing into logical addresses and making the logical
5 addresses of the hard disk storage devices within the hard disk carrier housing available over
6 one connection.

1 60. (New) The method of claim 58, wherein the providing structured access to
2 physical addresses of the multiple hard disk storage devices within the hard disk carrier
3 housing over one connection further comprises virtualizing the logical addresses of the hard
4 disk storage devices within the hard disk carrier housing as at least one aggregate volume to
5 provide a layer of abstraction to the hard disk storage devices within the hard disk carrier
6 housing.

- 1 61. (New) The method of claim 60 further comprising:
- 2 providing a plurality of the hard disk carrier housings holding a plurality of hard disk
- 3 storage devices;
- 4 providing access to each of the multiple hard disk storage devices within a hard disk
- 5 carrier housings over one connection to implement a desired package level storage
- 6 configuration for each of the hard disk carrier housings;
- 7 providing a system level controller for implementing a desired system level storage
- 8 configuration across the plurality of the hard disk carrier housings.